DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018-AB62

Endangered and Threatened Wildlife and Plants; Determination of Experimental Population Status for an Introduced Population of Red Wolves in North Carolina and Tennessee

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The U.S. Fish and Wildlife Service (Service) determines that it will introduce mated pairs of red wolves (*Canis rufus*) into the Great Smoky Mountains National Park (Park), Haywood and Swain Counties in North Carolina; and Blount, Cocke, and Sevier Counties in Tennessee; and that this population will be a nonessential experimental population according to section 10(j) of the Endangered Species Act of 1973 (Act), as amended. There is presently one other nonessential experimental population that was

introduced in 1987 on the Alligator River National Wildlife Refuge in North Carolina. This introduction is part of a continuing effort by the Service to reestablish the red wolf within its historic range so that it may continue to function as a part of the natural environment. Experimental population status is designated because section 10(j) provides greater discretion in devising an active management program for an experimental population than for a regularly listed species, a critical factor in insuring that other agencies and the public will accept the reintroduction. No conflicts are envisioned between the red wolf reintroduction in the Park and any existing or anticipated Federal agency actions or traditional public uses of the Park or adjacent U.S. Forest Service lands.

In relation to the existing experimental population on Alligator River National Wildlife Refuge, the Service revises the associated special rule to (1) modify the project review date deadline and (2) add Beaufort County, North Carolina, to the list of nearby counties where the experimental population designation will apply.

EFFECTIVE DATE: November 4, 1991.

ADDRESSES: The complete file for this rule is available for inspection, by appointment, during normal business hours at the Asheville Field Office, U.S. Fish and Wildlife Service, 330 Ridgefield Court, Asheville, North Carolina 28806.

FOR FURTHER INFORMATION CONTACT: Mr. V. Gary Henry, Red Wolf Coordinator, at the above address (telephone 704/665-1195).

SUPPLEMENTARY INFORMATION:

Effective Date

For this rule the Service waives for good cause the usual 30-day delay between the publication of a final rule and its effective date, as provided by 50 CFR 424.18(b)(1) and by the Administrative Procedure Act (5 U.S.C. 553(d)(3)). The reintroduction of the currently available wolf family group must be accomplished as soon as possible while the young are still somewhat dependent on the adults in order to assure success and avoid postponement of the project and, therefore, the species' progress towards recovery for another year. Therefore, good cause exists for this rule to be effective immediately upon publication.

Background

Among the significant changes made by the Endangered Species Act Amendments of 1982, Public Law 97-304, was the creation of a new section 10(j) that provides for the designation of specific introduced populations of listed species as "experimental populations." Under previous authorities in the Act, the Service was permitted to reintroduce populations into unoccupied portions of a listed species' historic range when it would foster the conservation and recovery of the species. Local opposition to reintroduction efforts, however, stemming from concerns about the restrictions and prohibitions on private and Federal activities contained in sections 7 and 9 of the Act, severely handicapped the effectiveness of this as a management tool.

Under section 10(j), past and future reintroduced populations established outside the current range, but within the species' historic range, may be designated, at the discretion of the Service, as "experimental." Such designations increase the Service's flexibility to manage these reintroduced populations, because such experimental populations may be treated as threatened species for purposes of section 9 of the Act. The Service has much more discretion in devising management programs for threatened species than for endangered species, especially on matters regarding incidental or regulated takings. Moreover, experimental populations found to be "nonessential" to the continued survival of the species in question are treated as if they were only proposed for listing for purposes of section 7 of the Act, except as noted below.

A "nonessential" experimental population is not subject to the formal consultation requirement of section 7(a)(2) of the Act, but if the experimental population is found on a National Wildlife Refuge or National Park, the full protection of section 7 applies to such animals. (The provision in section 7(a)(1) applies to all experimental populations.) The individual organisms comprising the designated experimental population can be removed from an existing source or donor population only after it has been determined that their removal itself is not likely to jeopardize the continued existence of the species. The removal must then be done under a permit issued in accordance with the requirements in 50 CFR 17.22.

The red wolf (*Canis rufus*) is an endangered species that is currently found in the wild only as an experimental population on the Service's Alligator River National Wildlife Refuge in Dare and Tyrrell Counties, North Carolina, and as an endangered species in three small island propagation projects located on Bulls Island, South Carolina; Horn Island, Mississippi; and St. Vincent Island, Florida. These four carefully managed wild populations contain a total of at least 28 animals, including 10 pups. The remaining red wolves are located in 23 captive-breeding facilities in the United States. The captive population presently numbers 135 animals, including 40 pups. This captive population includes the six animals in acclimation pens in the Park, but the Park is not included as one of the 23 facilities.

The red wolf was originally native to the Southeastern United States from the Atlantic Coast westward to central Texas and Oklahoma, and from the Gulf of Mexico to central Missouri and southern Illinois. The historic relationship of the red wolf to other wild canids is poorly understood, but it is thought that the red wolf coexisted with the coyote (*Canis latrans*) along its western range generally along the line where deciduous cover gave way to open prairie in Texas and Oklahoma. The gray wolf (*Canis lupus*) is believed to have frequented the range north and west of the red wolf but also occurred among the higher elevations of the Appalachian Mountains as far south as Georgia and Alabama. Fossil records indicate both species inhabiting these higher elevations at one time or another. Historical evidence, however, seems to characterize the red wolf as most common in the once vast pristine bottomland riverine habitats of the Southeast and especially numerous in and adjacent to the extensive "canebrakes" that occurred in these habitats. The canebrakes harbored large populations of swamp and marsh rabbits, considered likely to be the primary prey of the red wolf under natural conditions.

The demise of the red wolf was directly related to man's activities, especially land changes, such as the drainage of vast wetland areas for agricultural purposes; the construction of dam projects that inundated prime bottomland habitat; and predator control efforts at the private, State, and Federal levels. At that time the natural history of the red wolf was poorly understood, and like most other large predators, it was considered a nuisance species.

Today, the red wolf's role as a potentially important part of a natural ecosystem, if it can be restored to portions of its historic range, is certainly better appreciated. Furthermore, it is now clear that traditional controls would not be needed in any case; the red wolf poses no threat to livestock in situations where its natural prey, especially such mammal species as

groundhogs, rabbits, raccoons, and deer, is abundant. National Park Service (Park Service) surveys and studies in the Park have documented that there is an adequate prey base, especially in the Cades Cove quadrant in Tennessee.

Man-caused pressures eventually forced the red wolf into the lower Mississippi River drainage and lastly into the prairie marshes of southeast Texas and southwest Louisiana. This was where the only surviving population remained in the mid-1970s when the Service decided to trap as many surviving animals as possible and place them in a captive-breeding program. This decision was based on the obviously low number of red wolves left in the wild, poor physical condition of these animals due to internal and external parasites and disease, and the threat posed by an expanding coyote population and consequent interbreeding problems.

A Red Wolf Captive Breeding Program was established by contract with the Point Defiance Zoological Park and Aquarium in Tacoma, Washington. Soon thereafter 40 wild-caught adult red wolves were provided to the breeding program, and the first litter of pups was born in May 1977. Since then, the wolves have continued to prosper at this and 22 other captive facilities throughout the United States. Without this extreme action it is certain that the red wolf would now be extinct. Throughout this time, however, the goal of the Service's red wolf recovery program has continued to be the eventual release of at least some of the captive animals into the wild to establish populations within the species' historic range.

To demonstrate the feasibility of reintroducing red wolves, the Service conducted carefully planned one-year experiments in 1976 and 1978. These experiments involved the release of mated pairs of wild-caught red wolves onto Bulls Island, a 5,000-acre component of the Cape Romain National Wildlife Refuge near Charleston, South Carolina. The results of these carefully planned releases indicated that it is feasible to reestablish adult wild-caught red wolves in selected habitats in the wild. The experiments were eventually terminated, and the wolves recaptured and returned to captivity. Bulls Island was not large enough to support a population of red wolves indefinitely, and it was never intended to be a permanent reintroduction site. Observations and conclusions derived from these experiments, plus knowledge gained with wild-caught but captive-reared pups in Texas, also indicated the potential probability of being able to successfully establish captive-reared populations in the wild.

A great deal of investigative effort by Service personnel during the mid-1980s revealed that good habitat for the red wolf existed on lands in northeastern North Carolina that eventually became the Alligator River National Wildlife Refuge. These properties in Dare and Tyrrell Counties comprise nearly 120,000 acres of the finest wetland ecosystems remaining in the Mid-Atlantic region of the United States. Adjacent to the refuge is a 47,000-acre U.S. Air Force weapons range with similar habitats. Intensive studies revealed a good prey base within these Federal properties, a low human population within the general area, and virtually no livestock. The small agricultural base in the area was row crop farming for corn and soybeans. After briefing the North Carolina Congressional delegation, the North Carolina Wildlife Resources Commission, the Commissioner of Agriculture, and the Governor's staff, an intensive effort to inform the local public of the red wolf and its plight resulted in local acceptance of a reintroduction project. This acceptance was voiced by local residents during four public meetings held in the project area. In addition to public information and education, the use of new technology was highlighted. This was the use of the "capture collar," an electronic device that permitted project personnel to track released red wolves and also tranquilize an animal if needed.

On November 12, 1986, four pairs of adult red wolves were shipped to the Alligator River National Wildlife Refuge to begin a 6-month acclimation process. Because of unexpected delays in development of the capture collar, wolves were not released until September 1987. Despite anticipated mortalities during the first 6 months of release, the reintroduction effort has proven that captive-reared red wolves can be successfully released and survive in the wild. Reproduction occurred the first year the animals were released, and at the moment there are 24 red wolves alive in the wild on lands comprising the Alligator River National Wildlife Refuge and the adjacent Air Force Weapons Range in Dare County.

A strategy to propagate wild red wolf offspring was initiated on November 19, 1987, when a pair of adult wolves was shipped from the captive-breeding project in Washington State to Bulls Island. Two other island projects have subsequently been initiated, one on Horn Island, Mississippi, and the other on St. Vincent Island, Florida. The island propagation strategy has proven to be very successful. These island projects are now providing wild young red wolves to the project, as well as serving as ideal training sites for captive-born adult wolves to learn their skills in a wild but controlled situation. At the present time there are four red wolves on the three island projects. The three island projects are not reintroduction sites, but simply temporary efforts to rear young wild animals for later use in mainland reintroduction efforts.

The Fish and Wildlife Service Red Wolf Captive Breeding Program in Washington State has 46 animals, including 11 pups. There are 83 other red wolves, including 27 pups, in the remaining 22 public and private zoos and captive facilities in the United States. The Service has full responsibility for all red wolves in captivity. It is from these captive-breeding projects and the island propagation projects that wolves selected for reintroduction in the Park will come.

For the past year Service and Park Service personnel have been developing a reintroduction strategy for the red wolf in the Park. Considerable effort has been expended in assessing local interests and concerns with such a project. North Carolina and Tennessee congressional representatives, respective State wildlife agencies, State agricultural agencies, Farm Bureaus, local agricultural interests, and a variety of local organizations have been apprised of the project. The project is designed to address significant questions that have to be clarified before additional red wolf reintroductions can be contemplated. The most pressing need is to ascertain the interactions of red wolves and coyotes under wild conditions. The successes at Alligator River National Wildlife Refuge have been achieved in an area that is free of coyotes. Since approximately 90 percent of historic red wolf habitat now has resident coyotes, it is essential that this biological issue be addressed. It is generally thought that a hierarchy exists among the various wild canids. Studies have demonstrated that red fox populations gradually decline as coyote numbers increase, and coyotes decline in number where their range overlaps with gray wolf range. It appears that the decline of the red wolf in the coastal marshes of Louisiana and Texas was complicated by a parallel expansion of coyote range with subsequent instances of interbreeding. It is thought that this was an exceptional biological phenomenon brought on by man's intervention. Very little is actually

known of red wolf-coyote interactions in the wild. The first phase of the Park project is oriented at addressing this question and not to the breeding of the wolves in the Park.

A coyote tracking investigation was initiated in the Park during the spring of 1990. That study is currently assessing the population density of resident coyotes.

A phased reintroduction into the Park has initially required the removal of two adult pairs of red wolves from the captive-breeding and island propagation projects. Animals were selected and flown to Knoxville, Tennessee, in January 1991 and were transported by truck to the Park. Each pair is being held in a 2,500-square-foot acclimation pen for a period of approximately 9 months. Acclimation pens are isolated and provided maximum security. During their acclimation the pairs were allowed to breed. Only one pair successfully bred, producing five pups. This pair and two of the pups will be released. The decision to release only two pups is based on the need to reduce the number of animals released and stress on the adult animals. It will be easier to monitor animals, gather detailed data, and respond to conflicts with fewer individuals. Fewer animals also reduces the stress on the adults to provide for offspring while establishing a territory and defending it from other canids.

About 1 month prior to release, all four wolves will receive a small, surgically implanted radio transmitter, and the adult animals will be fitted with new capture-tracking collars. The animals will be released and closely monitored via telemetry tracking for the first 10 to 12 weeks, after which the frequency of monitoring would be gradually reduced after the family unit establishes predictable patterns of movement. Most of the telemetry tracking would be done from fixed wing aircraft. Special emphasis would be given to determining interactions of released red wolves and resident coyotes, as well as adaptability of the animals to the Park environment.

The acclimation pens function as additional captive propagation facilities, and the captive population figures in this rule include these animals. Although used to acclimate the wolves to the Park environment, this acclimation does not commit the wolves to release or affect the wolves' utility for captive breeding. The acclimated wolves not released can be transferred to permanent captive-breeding facilities elsewhere at any time and be maintained as part of the captive population. However, the nonreproducing pair of red wolves will initially continue to be maintained in the acclimation pens in the Park for possible future releases.

If this initial release is successful, the project would move to a second stage of effort. This stage would entail the acclimation and release of six to eight pairs of adult red wolves and their offspring in various sectors of the Park. Monitoring processes would follow the same protocols as in the first stage. Monitoring would continue to be a primary objective for 2 to 3 years. If the project proceeds to stage two, it is anticipated that the Park and adjacent U.S. Forest Service lands in North Carolina and Tennessee could eventually sustain a red wolf population of about 50 to 70 animals.

Status of Reintroduced Populations

This reintroduced population of red wolves is designated as a nonessential experimental population according to the provisions of section 10(j) of the Act. The experimental population status means that the reintroduced population will be treated as a threatened species, rather than an endangered species, for the purposes of sections 4(d) and 9 of the Act, which regulate taking, and other actions. This enables the Service to adopt a special rule that can be less restrictive than the mandatory prohibitions covering endangered species.

The special rule provides that there will be no violation of the Act for taking by the public incidental to otherwise lawful hunting, trapping, or other recreational activities or defense of human life, provided such takings are immediately reported to the Park Superintendent or his staff. Service, Park Service, and State employees and agents are additionally authorized to take animals that need special care or that are posing a threat to livestock or property. Livestock owners may also take red wolves that are actually engaged in the pursuit or killing of livestock on private properties. Such take, however, is only permitted after due notification to the Superintendent and if efforts to capture offending red wolves prove unsuccessful. Such take must be immediately reported to the Park Superintendent.

These flexible rules are considered a key to public acceptance of the reintroduced population. The States of North Carolina and Tennessee have entered into cooperative agreements with the Service as provided by section 6 of the Act. These cooperative agreements are reviewed annually by the Service to ensure that the States have regulatory authority to conserve listed species, including the red wolf.

Hunting and trapping are regulated outside the Park; in the event that wolves disperse from the Park, they would be immediately captured and returned to the Park. Therefore, risks of incidental taking outside the Park are virtually nonexistent. The Service finds that these rules are necessary and advisable for the conservation of the red wolf. No additional Federal regulations are needed.

The nonessential status is appropriate for the following reasons: Although once extirpated from its historic range, the red wolf has recently been reintroduced successfully to a small portion of that range; it exists in low numbers on three widely separated island projects; and the population is secured in 23 captive-breeding facilities and zoos in the United States. In addition, recent efforts to safeguard red wolf genetic material through cryogenic storage have proven successful. The existing captive population numbers 135 animals, and 28 animals are being managed in the wild. Given the health checks and careful monitoring that these animals receive, it is highly unlikely that disease or other natural phenomenon will threaten the survival of the species. Furthermore, the species breeds readily in captivity. Therefore, the taking of 18 to 20 adult animals from this assemblage (assuming a second stage release is realized) will pose no threat to the survival of the species even if all of these animals, once placed in the wild, were to succumb to natural or man-caused factors.

The management advantage derived from the nonessential status comes from the fact that it changes the application of section 7 of the Act (interagency consultation) to the reintroduced population. Outside the Park (i.e., on U.S. Forest Service lands, on Cherokee Indian tribal lands, or on private lands), the nonessential experimental population is treated as if it were a species proposed for listing, rather than a listed species. This means that only two provisions of section 7 apply on these non-Service lands: Section 7(a)(1), which authorizes all Federal agencies to establish conservation programs; and section 7(a)(4), which requires Federal agencies to confer informally with the Service on actions that are likely to jeopardize the continued existence of the species. The results of a conference are only advisory in nature; agencies are not required to refrain from commitment of resources to projects as a result of a conference. There are, in reality, no conflicts envisioned with any current or anticipated management actions of the U.S. Forest Service or other Federal agencies in the area. Forest Service

properties are a benefit to the project since they form a buffer to private properties in many areas, and management activities on National Forests are typically conducive to production of numerous prey animals. There are no threats to the success of the reintroduction project or the overall continued existence of the red wolf from these less restrictive section 7 requirements.

In the Park, on the other hand, the experimental population continues to receive the full range of protection from section 7. The Park Service or any other Federal agency is prohibited from authorizing, funding, or carrying out an action within the Park that is likely to jeopardize the continued existence of the red wolf. Service regulations at 50 CFR 17.83(b) specify that section 7 provisions shall apply collectively to all experimental and nonexperimental populations of a listed species. The Service has reviewed all ongoing and proposed uses of the Park and found none that are likely to jeopardize the continued existence of the red wolf, nor will they adversely affect the success of the reintroduction effort. Uses that could adversely affect success are hunting, trapping, and high-speed vehicular traffic. Hunting and trapping are prohibited in the Park, and vehicular traffic speed limits are reduced to levels not likely to result in vehicle/wolf impacts. Speed limits are 30–35 miles per hour on most roads in the Park and 20 miles per hour in the immediate area of the release. The highest speed limits are 45 miles per hour on a few sections of U.S. Route 441 in North Carolina, approximately 30 miles from the release site.

Location of Reintroduced Population

Since the red wolf is recognized as extinct in the wild, except for four small, carefully managed sites within its historic range, this Park reintroduction site will fulfill the requirement of section 10(j) that an experimental population be geographically isolated and/or easily discernible from existing populations. As previously described, the release site will be the Great Smoky Mountains National Park in Haywood and Swain Counties in North Carolina, and Blount, Cocke, and Sevier Counties in Tennessee. The area is located in the extreme western portion of North Carolina and the extreme eastern portion of Tennessee.

Management

This reintroduction project is undertaken by the Service; additional work and assistance are undertaken by Park Service personnel operating under an interagency agreement funded by the Service. Phase one plans called for the acclimation of two pairs of wolves for 6 months in captive pens within the Park. One of these pairs has bred and produced five pups during acclimation. During the fall there will be a careful evaluation of when the pair and two pups will be released. Released red wolves will be closely monitored via telemetry. It is hoped that the long acclimation period and presence of pups will prove to be effective in keeping the wolves within the boundaries of the Park. Private landowners adjacent to the Park will be requested to immediately report any observation of a red wolf off Park lands to the Park Superintendent. The Service, with Park Service assistance, will take appropriate actions to recapture and return the animal to the Park. After an as yet unspecified period of assessment (probably 10 to 12 months in duration), the released animals will probably be recaptured and data gathered about their movements and interactions with native prey species, resident coyotes, human interactions, and other parameters will be assessed.

Take of red wolves by the public will be discouraged by an extensive information and education program and by the assurance that all animals will be radio-collared or implanted and therefore easy to locate if they leave the Park. The public will be encouraged to cooperate with the Service and the Park Service in the attempt to maintain the animals on the release site.

In addition, the special rule provides that there will be no penalty for incidental take in the course of otherwise lawful hunting, trapping, or other recreational activity, or in defense of human life, provided that the taking is immediately reported to the Park Superintendent. Service, Park Service, and State employees and agents would be additionally authorized to take animals that need special care, pose a threat to livestock or property, or need to be moved for genetic purposes. Take procedures in such instances would involve live capture and removal to a remote area, or, if the animal is clearly unfit to remain in the wild, return to the captive-breeding facility. Killing of animals will be a last resort and will be authorized only if live capture attempts fail or there is some clear danger to human life.

Private livestock owners will be permitted to harass red wolves actually engaged in the pursuit or killing of livestock on private lands, using methods that are not lethal or physically injurious to the red wolf. Based on experience gained in managing wild and captive red wolves, approach and harassment by humans using loud noises, striking the wolf with hand-held or thrown nonlethal and noninjurious projectiles, or launching projectiles over the head of or near the wolf will usually result in the wolf leaving the area. Such conflicts must be reported to the Park Superintendent. Service or State officials will respond to these conflicts by live capturing the offending animals. If an early response by the Service or State officials fails to capture offending animals, the livestock owner will be permitted to take the offending animal. In the unlikely event that red wolves are proven to be successfully preying on livestock on private properties, the owner of such livestock may seek reimbursement from a non-Federal fund established by a private conservation organization for this purpose. These flexible rules are considered a key to public acceptance of the reintroduced population.

Utilizing information gained from the initial phase of the project, an overall assessment of the success of the family unit to adjust to the Park environment would be made. It is thought that this initial phase will be terminated after 10 to 12 months. In consultation with the North Carolina Wildlife Resources Commission, the Tennessee Wildlife Resources Agency, and the Park Service, the Service will determine the feasibility of the permanent reintroduction of the red wolf into the Park. Public response to the wolves will also be a factor in the determination. Information and experience gained with the red wolf reintroduction at Alligator River National Wildlife Refuge has provided the confidence needed to consider a project of this magnitude. This reintroduction attempt is consistent with the recovery goals identified for this species.

This reintroduction is not expected to conflict with existing or proposed human activities or hinder the public utilization of the Park. Additionally, the presence of these animals is not expected to impact the ongoing activities designated for this National Park. Utilization of the Park for the establishment of a red wolf population is consistent with the legal responsibility of the Park Service to enhance the native wildlife resources of the United States.

As described above, two pairs of red wolves were taken from captive-breeding and/or island propagation projects for the initial phase of the project. If a second reintroduction phase is attained, animals will generally be taken from these same sources.

Additional red wolves will also be available from the stock of wild animals at Alligator River National Wildlife Refuge. If this reintroduction proves successful, it will represent only the second, and by far the largest, viable wild population of red wolves. More importantly, this project will significantly enhance the long-term recovery potential for this critically endangered species. There are no existing or anticipated Federal and/or State actions identified for this release site that are expected to affect this experimental population. For all these reasons, the Service finds that the release of an experimental population into the Park will further the conservation of this species in accordance with section 10(j)(2)(A) of the Endangered Species Act.

Special Rule Changes for Alligator River Population

In the period since codification of the special rule for the experimental population introduced on Alligator River National Wildlife Refuge (50 CFR 17.81(b)), it has become apparent that two changes are needed in the rule for this population. Originally it was indicated that the Service would conduct a review of the project within 5 years of the effective date of the regulation. However, since the actual date for reintroducing wolves on the Refuge did not occur until approximately 11 months after the rule's effective date, the Service revises the deadline for reevaluating the project to indicate that reevaluation will be accomplished by October 1, 1992, instead of November 19, 1991. Additionally, based on experience gained to date, it now appears that there is some possibility that introduced wolves may wander into Beaufort County, which is in close proximity to the project area. In order to assure that in such an eventuality the wolves will be legally covered under the experimental population designation, the Service adds Beaufort County, North Carolina, to the area covered by the special rule.

Summary of Comments and Recommendations

In the August 7, 1991, proposed rule (56 FR 37513) comments or recommendations concerning any aspect of the proposal that might contribute to the development of a final decision on the proposed rule were solicited. Appropriate county, State, and Federal agencies; scientific, environmental, and land use organizations; and other interested parties were notified and requested to submit questions or comments on the proposed rule. A 30-day comment period was provided. A total of 56 comments were received, including 44 from individuals (representing 48 individuals), 6 from State agencies and organizations, 2 from county agencies and organizations, 2 from regional organizations, and 2 from businesses. Although 19 Federal agency offices were notified of the proposed reintroduction, no comments were received from Federal agencies. The Tennessee Farm Bureau Federation and the Blount County Livestock Association Board of Directors did not comment on the proposed rule during the 30-day comment period. However, they did comment prior to publication of the proposed rule in the **Federal Register**. Their concerns were the same concerns expressed by the North Carolina Farm Bureau Federation and the Sevier County Farm Bureau during the 30-day comment period and are addressed herein. Specific issues addressed by those commenting and the Service's responses are presented below.

1. General Comments of Support

Forty-seven comments supported the reintroduction. This included 38 letters from individuals (42 people); 2 letters from businesses; and letters from 1 regional, 1 county, and 4 State agencies and organizations. Many reasons for supporting the reintroduction were given, including the following: The wolf fulfills a predator vacancy needed for a complete or balanced ecosystem; the wolf poses no danger or significant impact to humans, livestock, wildlife, or economics; the opportunity to possibly see the wolf or knowing that it exists in the area is important; the reintroduction will help to educate the public about wolves; the protective environment, adequate prey base, and large size make the Park an ideal location; wolves have a right to exist in their historical range; humans have a responsibility to restore, preserve, and provide for population growth of animals reduced or extirpated because of human activities; a need exists to attempt reintroduction in an area containing coyotes to determine future recovery direction; the Service has demonstrated its ability to control and/or remove wolves when necessary; a need exists to reintroduce wolves as quickly as possible to reduce negative aspects of captive adaptation; the wolf is a part of our history and heritage and provided many place names in the reintroduction area; the Service and the Park Service have a responsibility to reintroduce endangered species; and wolves will help to control exotic species, such as the hog, as well as overpopulations of native species, such as deer. One letter offered private land for use in the project, another requested information on making donations to the project, and a third indicated that the writer had written to news media and legislators in support of the project.

Service Response: The Service agrees with all of these reasons and addresses them in this final rule and the final environmental assessment. The efforts of individuals in support of the project are appreciated, and, where appropriate, requests will be fulfilled and offers of help will be answered.

2. General Comments of Opposition

Eight comments opposed the reintroduction. This included six letters from individuals and one letter each from a State organization and a regional organization. The six letters from individuals included the following reasons for opposing the project: Wolves are a danger to humans, particularly children; wolves will kill domestic animals; wolves will reduce populations of wild prey, especially small animals and young deer, to undesirable levels; wolves will multiply to expand their range to the point that they will be uncontrollable; and tax money should not be spent on this project.

Service Response: Most of these comments represent fears carried over from past generations, and a failure of present educational efforts to reach these individuals or to assure them that their fears are unfounded. Known cases of attacks by red wolves are questionable and extremely rare. There are records of researchers crawling into dens of wild wolves; current researchers repeatedly crawl into dens in captive-breeding facilities to capture adults and young for various purposes without fear of attack. Red wolves are very shy and afraid of humans and will normally leave the scene when humans are encountered. However, as with any wild animal (even nonpredators), they can be dangerous if cornered where they have no escape or if they are defending themselves from perceived danger or injury.

Red wolves do prey on small mammals up to the size of deer and may occasionally take domestic animals. However, it is generally accepted that they provide a needed balance in wild ecosystems by reducing overpopulations, removing sick and injured animals, and, thus, making prey populations healthier. Indeed, if they eliminated their prey, they in turn would succumb. Red wolves have rarely taken domestic animals, but this reintroduction will evaluate the interaction with livestock. Provisions

are included to allow for the protection of livestock.

If results during the first year are successful and it is decided to proceed, wolves will hopefully multiply and expand their range to achieve a viable population. However, concerns that populations would be uncontrollable are unfounded. The Service has demonstrated at other reintroduction sites that wolf populations can be controlled at the population levels contemplated. Even with high populations, individual problem animals can be captured. History also demonstrates that wolves are very controllable. The red wolf is an endangered species largely due to past control programs.

The comment regarding the unwise use of funds for restoring endangered species represents certain individual preferences but does not coincide with the recovery mandate of the Endangered Species Act. Congress has provided funding for endangered species recovery, including the red wolf. Indeed, the overwhelming support for this reintroduction, based on 85 percent of the comments received being favorable, shows strong public support.

3. Comments Regarding Changes in the Original Proposal

The Sevier County Farm Bureau is concerned that, in the early stages of the proposal, the first release was to have been two pairs of red wolves, which would not be reproducing in the wild during the first phase; this has now changed.

Service Response: The changes to a first release of a family group of an adult pair and two pups, instead of two pairs, was made because of concerns from livestock owners. The total number of animals to be released is still four, but two are pups; therefore, food needs will be less than for four adults. Movements of a family unit are generally shorter than that of paired adults without pups. This decreases the likelihood of movement outside the Park onto private lands where livestock may be encountered. Shorter movements also lessen the burden of monitoring the animals so that more time can be devoted to any potential problems that could occur, such as depredation.

4. Comments Concerning the Experimental Nonessential Classification and the Incidental Taking Provisions

Letters were received from the North Carolina Farm Bureau Federation (Federation), the Burnet Park Zoo, the North Carolina Chapter of the Sierra Club, the Southeast Region of the Wilderness Society, and Alpha Wildlife Awareness Through Research and Education supporting the experimental nonessential classification. In addition, the Tennessee Citizens for Wilderness Planning also supported this designation if it would increase public acceptance of the reintroduction. Two letters from individuals expressed concerns that the wolf should be provided protection inside and outside the Park. Another individual letter requested that the wolves be protected from man and that the public be made aware of the extreme penalties for killing a wolf. A fourth individual expressed concern about poachers taking red wolves.

Service Response: The two individuals concerned with providing protection both inside and outside the Park and the individual concerned about poaching may have misinterpreted the proposed rule. Protection from taking, except as incidental taking defined in this rule, applies inside and outside the Park. Section 7 requirements are less restrictive outside the Park, but, in reality, there are no envisioned conflicts with anticipated management actions of other Federal agencies. Indeed, anticipated actions of the U.S. Forest Service, which is the other major Federal agency with lands in the area, are believed to be beneficial in providing prey populations. The penalties for taking an endangered species; i.e., taking not in accordance with this rule, are addressed in section 11 of the Endangered Species Act. Maximum penalties are $50,000 or imprisonment for 1 year.

The Federation felt that livestock owners should be allowed to take wolves engaged in livestock depredation. The Sevier County Farm Bureau went on record as having serious reservations about the reintroduction but did not support or oppose it; one concern was that livestock owners be provided more protection. The Tennessee Citizens for Wilderness Planning supported the provisions concerning livestock owners, provided that the provisions make it clear that taking of red wolves is only permitted after all of these conditions (wolves actually engaged in the pursuit or killing of livestock, Superintendent notified, and efforts to capture offending wolves are unsuccessful) are met.

Service Response: The Service has revised the rule to allow livestock owners to harass wolves actually pursuing or killing livestock, using nonlethal and noninjurious methods. Based on Service experience, wolves approached by and/or harassed by humans will leave the area. Therefore, this should provide the opportunity for livestock owners to protect their livestock as much as possible. Livestock owners must notify the Superintendent of such occurrences and allow the Service an opportunity to capture the offending animal. If such attempts are unsuccessful, the livestock owner can then take the animal himself if depredations continue.

The Federation also expressed concerns that (1) hybrids from the reintroduced red wolves interbreeding with dogs or coyotes would be given the same protection as the reintroduced red wolves and (2) wolves may migrate into other counties near the release site but not specifically designated in the rule and thus would receive full protection under "endangered" status.

Service Response: Hybrids from interbreeding between reintroduced red wolves and dogs or coyotes would not be protected under this rule but would be under the jurisdiction of the State wildlife agency and their regulations regarding resident species. As recognized by the Federation, the Service has extended the nonessential experimental population status into adjacent counties beyond the original reintroduction site. The Service believes this provides an ample area to cover possible population movements or expansion. If reintroduced animals range into other counties, the Service would expand the nonessential experimental status to adjacent counties surrounding the reintroduction site; such animals would continue to be treated as part of the nonessential experimental population.

The Tennessee Citizens for Wilderness Planning opposes the provisions to "allow taking by the public incidental to * * * hunting, trapping, or other recreational activities." "Other recreational activities" is considered by this organization as a very broad definition, inviting all sorts of abuse. This organization also notes that hunting is widespread in counties surrounding the Park, with gun owners constituting a high percentage of the population, and that segments of this population may actively seek to bag a red wolf and pass it off as "incidental taking."

Service Response: Taking by the public must be incidental to otherwise lawful recreational activities. Any taking of red wolves will be thoroughly investigated; taking that is not incidental or is a result of an unlawful activity is not covered by this rule and would be subject to the penalties provided in the Endangered Species Act for taking an endangered species. Experience at the Alligator River National Wildlife Refuge

over the last 4 years shows that such takings are not very probable.

5. Comments Concerning the Depredation Fund

The Federation interpreted the wording regarding the depredation fund; i.e., "In the unlikely event * * *," to insinuate that livestock owners would never be able to prove depredation or that the fund is unlikely to pay for losses because the Service has a preconceived notion that depredation will not occur. The Sevier County Farm Bureau stated that landowners should be compensated for livestock losses and that there should be a binding agreement clearly spelling this out.

Service Response: The wording was not intended to imply that owners would not be able to prove depredation losses or that losses would be unlikely to be paid. The statement simply recognizes the biological facts that, with ample wild prey, with the animals' being monitored by radio and returned to the Park if they move off, and with the primary livestock within the Park being cattle (which, except for unattended calves, are believed too large for the wolves to take), the reintroduced wolves are not likely to take livestock. The depredation fund has been established through the National Fish and Wildlife Foundation and the Great Smoky Mountains Natural History Association (Association). The Association has agreed to make payments from the depredation account to property owners upon certification by the Superintendent of the Park and the Red Wolf Coordinator that livestock losses have occurred from red wolf depredation.

6. Comments Concerning Hybridization and Delisting

The Southern States Sheep Council (Council) requested that the comment period be extended 120 days and that all reintroduction programs be stopped. This request was made on the basis of a petition filed to remove the red wolf from Endangered Species Act protection. The petition was based on recent DNA studies that concluded that the red wolf is a "hybrid." The 120-day extension request was made in reference to the 90-day response time for the Service to address the sufficiency of the information in the petition.

Service Response: The petition process related to listing and delisting species is a separate issue from this rule and will be addressed appropriately under the provisions of section 4(b) of the Act and 50 CFR 424.14. The request to stop reintroduction and extend the comment period was referenced to the petition and therefore is denied with regard to this rule. The Council provided no comments on the reintroduction in the Park. Personnel of the Service have maintained contact with the Council throughout the development of the proposed reintroduction and have offered, on several occasions, to meet with them and discuss any problems they may have with the reintroduction. Therefore, the Council has had ample opportunity (in excess of 120 days) to provide any comments or concerns but has not done so. The 90-day response time to address the petition is within the timeframe established for phase one of this project. The wolves released in phase one will be recaptured at the end of the evaluation period for this phase. Indeed, radio transmitters and capture collars will be placed on the wolves, and they can be recaptured if, at any time, a decision is made to remove the red wolf from the endangered species list. Meanwhile, the Service must continue to implement the provisions of the recovery plan for this species.

Three individuals provided comments regarding hybridization. All three supported the reintroduction and urged caution regarding interpretations based on recent genetic research. One letter stated the following:

> The status of the red wolf was debated when the recovery plan was first written. Too often the assured results and theories put forth one day turn out to be less assured and maybe dead wrong another. If we still have the animal and have restored it to its former place in parts of its historic range, we will have at least erred on the side of caution. If we give up on recovery and the views of these geneticists prove later to be wrong or based on inadequate evidence, we can't go back and recreate a lost opportunity with animals that may no longer exist or exist in insufficient numbers to ensure recovery.

Another letter made the following statement:

> I do not believe that the recent controversial genetic research suggesting that the red wolf may be a hybrid and not a separate subspecies is accepted as totally valid. There is ample fossil evidence that the red wolf actually pre-dates the gray wolf in this area, and was here long before the recent eastern appearance of the coyote.

A third letter stated

> * * * if you checked the purity of some northern breeds of dogs you'd find some wolf DNA. That doesn't make an Alaskan Malamute a gray wolf nor does it make a red wolf a coyote.

Service Response: The Service agrees with these comments. The work referenced was entitled "Mitochondrial DNA Analysis Implying Hybridization of the Endangered Red Wolf (*Canis rufus*)." It was authored by R.K. Wayne and S.M. Jenks and was published in Nature in June 1991.

The application of specialized genetics techniques by Drs. Wayne and Jenks was funded by the red wolf recovery program and is the latest attempt to shed light on the red wolf's taxonomic status. Wayne and Jenks report that no identifiably unique red wolf mitochondrial DNA (mtDNA) was found in either the present populations or in historical specimens. The results suggest that present red wolves have a mitochondrial genotype derived from coyotes, and historical populations from 1905 to 1930 had mitochondrial genotypes closely related or identical to coyotes or gray wolves. These data equally support several theories: (1) The red wolf actually has (had) unique mtDNA, but it no longer is detectable or was missed; (2) the red wolf is a hybrid form resulting from numerous coyote/gray wolf interbreedings and never had unique mtDNA; or (3) the red wolf was a distinct subspecies of gray wolf without unique mtDNA. While mtDNA shows evidence of interbreeding, it does not provide any data on the extent of this interbreeding, and mitochondria have no effect on the functioning of the animal or how it looks or behaves.

R.M. Nowak addressed the possibility of hybrid origin for the red wolf in his 1979 monograph entitled "North American Quaternary *Canis*" and found that existing morphological and fossil evidence did not support this view. The available data were consistent with recognition of the red wolf as a separate species of wolf. Fossil and historical museum specimens of North American *Canis* prior to 1930 can be sorted into three distinct groups corresponding to the three currently recognized species, with no gradation between the groups that would be expected if the red wolf was a relatively recent hybrid form. Mechanisms that would have produced hybrids throughout the red wolf's historical range are not supported by any published accounts reinterpreting either the fossil evidence or the historical distributions of either the coyote or gray wolf. The locations and dates of collection for all wild canids examined by Wayne and Jenks could only indicate widespread pockets of hybridization among the three *Canis* species earlier (by about 20 years) than indicated by the widespread appearance of intermediate specimens. Evidence also exists regarding brain morphology, nuclear DNA, behavior, and breeding consistency that supports the status of the red wolf as a separate species.

The debate over the origin and taxonomic status of the red wolf is not likely to be resolved any time soon, if ever, even with additional work using

mtDNA or other genetic analyses. One major obstacle is a scarcity of specimens from east of the Mississippi River prior to recent coyote expansion eastward. However, the red wolves of today are truly representative of the same canid that roamed the Southeast during historic and modern times in basically unmodified form, and they are morphologically and behaviorally distinct from both coyotes and gray wolves. For this reason, there will be no change in the emphasis and commitment within the Service for recovering the red wolf as a top predator, thus refilling an important ecological and evolutionary role that has been missing in many areas for much of this century. The Service will continue support for additional work, including genetics, in attempts to sort out the pieces of this puzzle.

7. Comments Concerning Education Program

Two individuals expressed the need for public educational programs showing the life history of the red wolf and allaying fears and anxieties the public might have.

Service Response: Representatives of the Park and the Service have been carrying out an aggressive information campaign to inform the public about the red wolf and their plans for managing it. We have met with a broad spectrum of elected officials, wildlife management agencies, and groups of conservationists, sportsmen, livestock owners, civic organizations, and others who might be affected by wolf releases. Details of the proposal have been presented in formal presentations to approximately 25 civic groups and organizations in the communities that surround the Park. Articles concerning the proposal have appeared in local as well as regional newspapers in North Carolina and Tennessee and in adjacent States. Local radio and television stations have featured the red wolf proposal at various times. The Park Service and the Service have cooperatively developed and distributed educational materials concerning the proposal.

In addition, a red wolf public education package is being produced by WBIR–TV, Channel 10, in Knoxville, Tennessee. This is a cooperative project involving the Southern Appalachian Man and Biosphere Cooperative, the Park Service, the Service, and WBIR. Included in the public education package is a 30-minute video to be run twice by WBIR, an NBC affiliate, as part of their "Heartland" series, which focuses on natural and recreational resources in the general area. Copies of the video, posters, and teacher packets will be produced and distributed free of charge to 400 schools in the general area.

National Environmental Policy Act

An Environmental Assessment prepared under authority of the National Environmental Policy Act of 1969 is available to the public at the Service's Asheville, North Carolina, Office (see **ADDRESSES** section) or the Division of Endangered Species, U.S. Fish and Wildlife Service, Department of the Interior, Washington, DC 20240. It has been determined that this action is not a major Federal action that would significantly affect the quality of the human environment within the meaning of section 102(2)(C) of the National Environmental Policy Act (implemented at 40 CFR parts 1500–1508).

Required Determinations

The Service has determined that this is not a major rule as defined by Executive Order 12291, and that the rule will not have a significant economic effect on a substantial number of small entities as described in the Regulatory Flexibility Act (5 U.S.C. 601, *et seq.*). The reintroduction of a nonessential experimental population of red wolves into the Park and the use by these animals of the Park and adjacent Federal lands is compatible with current utilization of the Park and adjacent Federal properties, and is expected to have no adverse impact on public use days. It is reasonable to expect some increase, although probably too small to be measured, in visitor use of the Park after the release of the wolves. The Service has also determined that this action will not involve any taking of constitutionally protected property rights that would require preparation of a takings implication assessment under Executive Order 12630. The rule does not require a federalism assessment under Executive Order 12612 since it will not have any significant federalism effects as described in the order. The rule does not contain collections of information that require approval by the Office of Management and Budget under 44 U.S.C. 3501, *et seq.*

Author

The principal author of this rule is V. Gary Henry (see **ADDRESSES** section).

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, and Transportation.

Regulation Promulgation

PART 17—[AMENDED]

Accordingly, part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations is hereby amended as set forth below:

1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1544; 16 U.S.C. 4201–4245; Pub. L. 99–625, 100 Stat. 3500; unless otherwise noted.

2. Section 17.11(h) is amended by revising the existing entry for "Wolf, red" under MAMMALS to read as follows:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

SPECIES		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
MAMMALS:							
*	*	*	*	*	*		
Wolf, red	*Canis rufus*	U.S.A. (SE U.S.A., west to central TX).	Entire, except where listed as Experimental Populations below	E	1,248,449	NA	NA
Do	do	do	U.S.A. (portions of NC and TN—see § 17.84(c)(9))	XN	248,449	NA	17.84(c)
*	*	*	*	*	*		

3. Section 17.84 is amended by revising paragraphs (c)(1), (c)(4), (c)(5)(iii), (c)(6), (c)(9), (c)(10), and (c)(11) and adding paragraph (c)(5)(iv) as follows:

§ 17.84 Special rules—vertebrates.

* * * * *

(c) * * *

(1) The red wolf populations identified in paragraphs (c)(9)(i) and (c)(9)(ii) of this section are nonessential experimental populations.

* * * * *

(4)(i) Any person may take red wolves found in the area defined in paragraph (c)(9)(i) of this section in defense of that person's own life or the lives of others, *Provided* That such taking shall be immediately reported to the refuge manager, as noted in paragraph (c)(6) of this section.

(ii) Any person may take red wolves found in the area defined in paragraph (c)(9)(ii) of this section, *Provided* That such taking is incidental to lawful recreational activities or in defense of that person's own life or the lives of others, and that such taking is reported immediately to the Park Superintendent.

(iii) Any livestock owner may harass red wolves found in the area defined in paragraph (c)(9)(ii) of this section actually pursuing or killing livestock on private properties, *Provided* That all such harassment is by methods that are not lethal or physically injurious to the red wolf and is reported immediately to the Park Superintendent.

(iv) Any livestock owner may take red wolves found in the area defined in paragraph (c)(9)(ii) of this section to protect livestock actually pursued or being killed on private properties after efforts to capture depredating red wolves by project personnel have proven unsuccessful, *Provided* That all such taking shall be immediately reported to the Park Superintendent.

(5) * * *

(iii) Take an animal that constitutes a demonstrable but non-immediate threat to human safety or that is responsible for depredations to lawfully present domestic animals or other personal property, if it has not been possible to otherwise eliminate such depredation or loss of personal property, *Provided* That such taking must be done in a humane manner, and may involve killing or injuring the animal only if it has not been possible to eliminate such threat by live capturing and releasing the specimen unharmed on the refuge or Park;

(iv) Move an animal for genetic purposes.

(6) Any taking pursuant to paragraphs (c) (3) through (5) of this section must be immediately reported to either the Refuge Manager, Alligator River National Wildlife Refuge, Manteo, North Carolina, telephone 919/473–1131, or the Superintendent, Great Smoky Mountains National Park, Gatlinburg, Tennessee, telephone 615/436–1294. Either of these persons will determine disposition of any live or dead specimens.

* * * * *

(9)(i) The Alligator River National Wildlife Refuge reintroduction site is within the historic range of the species in North Carolina, in Dare and Tyrrell Counties; because of their proximity, Beaufort, Hyde, and Washington Counties are also included in the experimental population designation.

(ii) The red wolf also historically occurred on lands that now comprise the Great Smoky Mountains National Park. The Park encompasses properties within Haywood and Swain Counties in North Carolina, and Blount, Cocke, and Sevier Counties in Tennessee. Graham, Jackson, and Madison Counties in North Carolina, and Monroe County in Tennessee, are also included in the experimental designation because of the close proximity of these counties to the Park boundary.

(iii) Except for the three island propagation projects and these small reintroduced populations, the red wolf is extirpated from the wild. Therefore, there are no other extant populations with which the refuge or Park experimental populations could come into contact.

(10) The reintroduced populations will be monitored closely for the duration of the project, generally by use of radio telemetry as appropriate. All animals will be vaccinated against diseases prevalent in canids prior to release. Any animal that is determined to be sick, injured, or otherwise in need of special care, or that moves off Federal lands, will be immediately recaptured by Service and/or Park Service and/or designated State wildlife agency personnel and given appropriate care. Such animals will be released back to the wild on the refuge or Park as soon as possible, unless physical or behavioral problems make it necessary to return the animals to a captive-breeding facility.

(11) The status of the Alligator River National Wildlife Refuge project will be reevaluated by October 1, 1992, to determine future management status and needs. This review will take into account the reproductive success of the mated pairs, movement patterns of individual animals, food habits, and overall health of the population. The duration of the first phase of the Park project is estimated to be 10 to 12 months. After that period, an assessment of the reintroduction potential of the Park for red wolves will be made. If a second phase of reintroduction is attempted, the duration of that phase will be better defined during the assessment. However, it is presently thought that a second phase would last for 3 years, after which time the red wolf would be treated as a resident species within the Park. Throughout these periods, the experimental and nonessential designation of the animals will remain in effect.

* * * * *

(Final: Red wolf—Nonessential experimental population designation in the Great Smoky Mountains National Park)

Dated: October 15, 1991.

Richard N. Smith,

Acting Director, Fish and Wildlife Service.

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